

CORRES. CONTROL  
OUTGOING LTR NO.

DOE ORDER #

05 RF00157



DIST.	LTR	ENC
BERARDINI, J.	X	
BRAILS FORD, M.D		
FERRERA, D.W.	X	
FERRI, M.S.		
FULTON, J.C.		
GIACOMINI, J.		
HALL, L.		
MARTINEZ, L.A.		
PARKER, A.M.		
POWERS, K.		
SCOTT, G.K.		
SHELTON, D.C.	X	
SPEARS, M.S.		
TRICE, K.D.		
VOORHEIS, G.M.		

February 10, 2005

05-RF-00157

Mr. Joseph A. Legare, Director  
Project Management Division  
DOE, RFPO

Mr. Steve Gunderson  
Colorado Department of Public Health and Environment  
4300 Cherry Creek Drive South  
Denver, CO 80246-1502

Mr. Mark Aguilar  
U.S. Environmental Protection Agency  
999 18<sup>th</sup> Street, Suite 300  
Denver, CO 80202-2466

TRANSMITTAL OF DRAFT ADDENDUM TO THE NFAA JUSTIFICATION  
WRITE-UP FOR TRENCH 7 - KLW-010-05

COR. CONTROL	X	X
ADMN. RECORD	X	X
WASTE REC. CTR.		
TRAFFIC		
PATS/130		

Enclosed are copies of the Draft Addendum to the NFAA Justification Write-up for Trench 7. We will contact your staff to schedule a meeting the week of February 21 to resolve comments and finalize the text.

CLASSIFICATION:  
UCNI  
UNCLASSIFIED  
CONFIDENTIAL  
SECRET

If you have any questions, please contact me at extension 9883.

AUTHORIZED CLASSIFIER  
SIGNATURE  
Exemption - CEX-105-01

Karen L. Wiemelt  
Manager, Environmental Restoration Programs

Date

KLW:dm

IN REPLY TO RFP CC  
NO:

Orig and 1 cc - Joseph Legare  
cc: Norma Castaneda

ACTION ITEM STATUS

- ☐ PARTIAL/OPEN  
☐ CLOSED

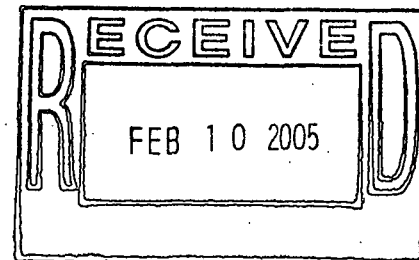
Enclosures:  
As Stated

LTR APPROVALS:

ORIG & TYPIST INITIALS

Revision 7/04

Kaiser-Hill Company, L L C  
Rocky Flats Environmental Technology Site, 10808 Hwy. 93 Unit B, Golden, CO 80403-8200 • 303-966-7000



ADMIN RECORD

BZ-A-000791

## **DRAFT ADDENDUM NO FURTHER ACCELERATED ACTION JUSTIFICATION FOR TRENCH T-7**

### **PAC REFERENCE NUMBERS: NE-111.4**

#### **Additional Characterization**

A No Further Accelerated Action Justification (NFAA) was prepared for Trench T-7 in May 2003 (DOE 2003a). However, upon reviewing data associated with the trench, there was uncertainty regarding levels of radioactivity within the material used to cover the trench debris. Therefore, additional characterization was conducted at the location, and results are documented in this NFAA Addendum.

Samples were collected on October 25, 2004, in accordance with Buffer Zone Sampling and Analysis Plan (BZSAP) Addendum 04-02 (DOE 2003b) and an Environmental Restoration (ER) Regulatory Contact Record dated October 21, 2004 (Appendix A). Samples were collected from the fill material overlying the trench contents at three biased locations along the length of the trench and analyzed for radionuclides.

Analytical results indicated that radionuclides were present at activities less than Rocky Flats Cleanup Agreement (RFCA) action levels (ALs) for the Wildlife Refuge Worker (WRW), with two exceptions. At Sampling Location CZ41-011, the surface activity for plutonium-239/240 was 65.72 picocuries per gram (pCi/g), and at Sampling Location CZ41-010, the subsurface activity for plutonium-239/240 was 108.59 pCi/g. The WRW AL is 50 pCi/g. Results are shown on Figure 1. Only results greater than background means plus two standard deviations are shown.

#### **T-7 Hot Spot Remediation and Confirmation Sampling**

Based on the results from characterization of the cover material, the Trench T-7 soil was remediated during November 2004. This action was conducted in accordance with RFCA, the ER RFCA Standard Operating Protocol (RSOP) for Routine Soil Remediation (ER RSOP) (DOE 2003c), and an ER Regulatory Contact Record dated November 10, 2004 (Appendix A). The initial excavation at each hot spot was approximately 5 feet by 5 feet. Based on the exceedances, the eastern hot spot was excavated to a depth of approximately 6 inches, the western hot spot to a depth of approximately 3 feet.

Eight confirmation samples were collected on November 24, 2004, from the side walls and field screened using gamma spectroscopy. Screening results indicated that plutonium-239/240 activities were less than the WRW AL, and the samples were then sent to the off-site laboratory and analyzed using alpha spectroscopy. However, alpha spectroscopy results for the northern and southern side walls of the eastern hot spot (confirmation sampling locations CZ41-017 and CZ41-019, respectively) exceeded the AL. Therefore, additional soil was removed to the north and south of the original excavation on January 6 and 10, 2005 (related photographs are presented in Appendix B). Two additional confirmation samples were collected (at confirmation sampling locations DA41-013 and CZ41-020), and field screening results indicated plutonium-239/240 activities less than the WRW AL. The two confirmation samples were then sent to the

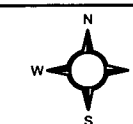
**Figure 1**  
**Trench T-7**  
**Characterization Sampling Results**  
**Greater Than Background Means**  
**Plus Two Standard Deviations**

**KEY**

- Sampling location with radionuclide activity greater than WRW AL
- Sampling location with radionuclide activities less than WRW ALs

□ Trench

**DRAFT**



30 0 30 Feet

Scale = 1:800

State Plane Coordinate Projection  
 Colorado Central Zone  
 Datum: NAD 27

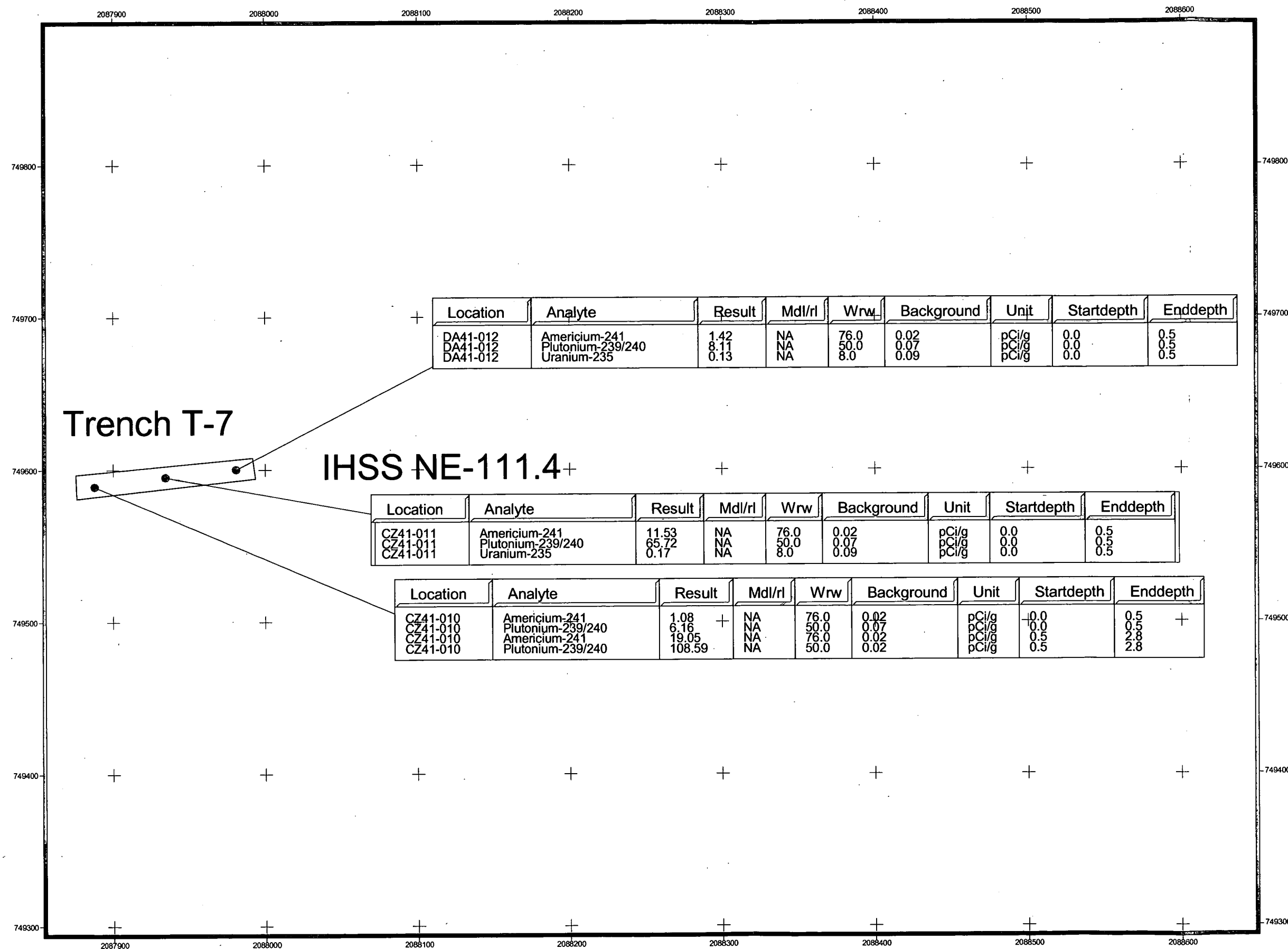
U.S. Department of Energy  
 Rocky Flats Environmental Technology Site

Prepared by: **RADMS**

Prepared for: **KAISER HILL COMPANY**

Date: 12.02.2004

File: W:\Projects\Fy2004\900-12\char\_confm\_hist\_120104.apr



off-site laboratory and analyzed using alpha spectroscopy. Results show that plutonium activities in both samples were below the WRW AL.

Final confirmation results are presented on Figure 2. Only results greater than background means plus two standard deviations are shown. Data on the two initial confirmation sampling locations that had activities greater than the WRW AL (CZ41-017 and CZ41-019) are not shown. The final Trench T-7 excavation boundaries are shown. The removed material, approximately 300 cubic feet, was disposed of in intermodal containers as low-level radioactive waste. The excavation was backfilled with clean fill from the Trailer 371 area. Because of the small size of the excavations, no erosion control or reseeded was required.

### **No Longer Representative Sampling Location**

The A interval at Sampling Locations CZ41-011, CZ41-017 and CZ41-019 were removed during soil remediation, and therefore, are no longer representative. The A and B intervals at Sampling Location CZ41-010 were removed and are no longer representative. Data for these sampling locations have been marked as such in the Soil Water Database so that they will not be used in the Sitewide Comprehensive Risk Assessment (CRA) and other Site analyses.

### **Conclusion**

As a result of the accelerated action, an NFAA for Trench T-7 is justified as follows:

- Residual surface soil radionuclide activities are less than RFCA WRW ALs (DOE et al 2003).
- The Subsurface Soil Risk Screen indicates that additional accelerated action is not required for the near-surface fill material. The area is not subject to significant erosion (Figure 1 of RFCA) (DOE et al 2003).

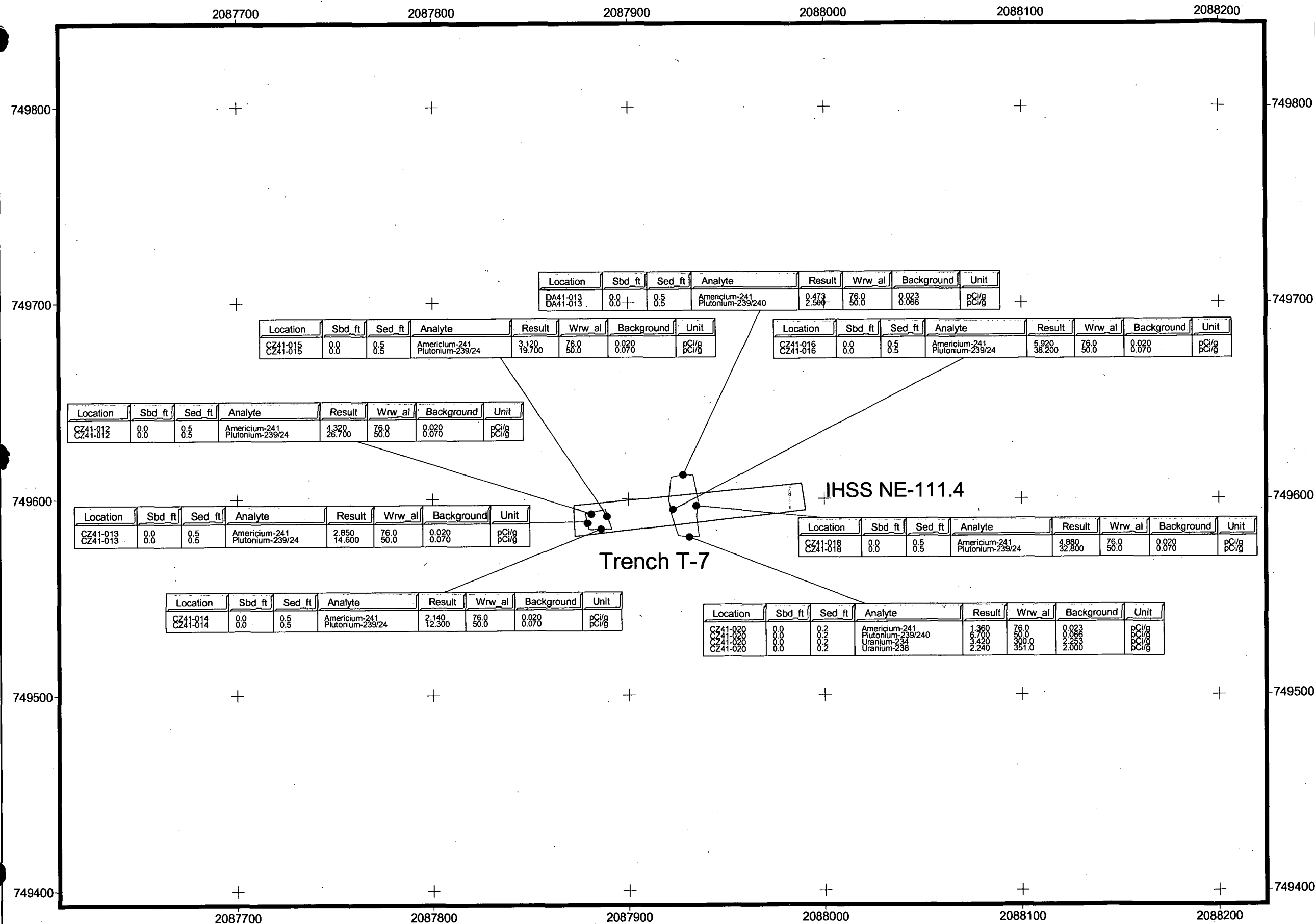
Residual contamination will be further evaluated in the Sitewide CRA and the Accelerated Action Ecological Screening Evaluation.

Approval of this NFAA Addendum constitutes regulatory agency concurrence that Trench T-7 is an NFAA site. This information and NFAA determination will be documented in the Fiscal Year 2005 Historical Release Report. This addendum will be submitted to the Comprehensive Environmental Response, Compensation, and Liability Act Administrative Record for permanent storage 30 days after being provided to the Colorado Department of Public Health and Environment and/or U.S. Environmental Protection Agency, Region VIII.

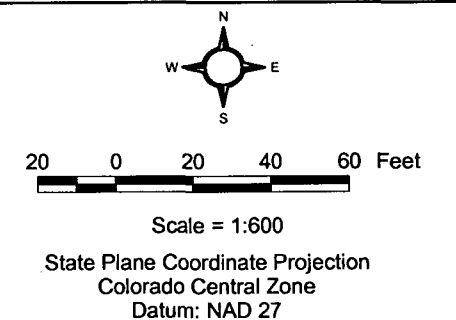
**Figure 2**  
**Trench T-7**  
**Confirmation Sampling Results**  
**Greater Than Background Means**  
**Plus Two Standard Deviations**

**KEY**

- Sampling location with radionuclide activities less than WRW ALs
- Trench
- ∩ Excavation boundary



Draft



U.S. Department of Energy  
 Rocky Flats Environmental Technology Site

Prepared by:

**RADMS**

Prepared for:

**KAISER HILL**  
 COMPANY

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Date: 01/25/05

## References

DOE, 2003a, No Further Accelerated Action Justification For Trench T-7, Rocky Flats Environmental Technology Site, Golden, Colorado, May.

DOE, 2003b, Buffer Zone Sampling and Analysis Plan FY04 Addendum #BZ-04-02, Rocky Flats Environmental Technology Site, Golden, Colorado, November.

DOE, 2003c, Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation, Rocky Flats Environmental Technology Site, Golden, Colorado. June.

DOE, CDPHE and EPA, 2003, Modifications to the Rocky Flats Cleanup Agreement Attachment, U.S. Department of Energy, Colorado Department of Public Health and Environment, and U.S. Environmental Protection Agency, Rocky Flats Environmental Technology Site, Golden, Colorado, June.

**APPENDIX A**

**CORRESPONDENCE**

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE ER REGULATORY CONTACT RECORD

Date/Time: 10/21/04

Site Contact(s): Karen Wiemelt/K-H and Norma Castaneda/DOE  
Phone: 303.966.9883 and 303.966.4226

Regulatory Contact: Sam Garcia, Larry Kimmel, Harlen Ainscough, Dave Kruchek, Elizabeth Pottorff

Phone:

Agency: US EPA/ CDPHE

## Purpose of Contact:

### Discussion

Surface soil samples will be collected from Trench T-7 locations shown on the attached figure. The samples will be analyzed for Pu and Am. If results are greater than the WRW action level, a hot spot remediation will be conducted with confirmation samples collected as determined through the consultative process. Any hot spot remediation conducted will not extend into the contents of the trench.

Contact Record Prepared By: Karen Wiemelt/ER Project Manager

### Required Distribution:

M. Aguilar, USEPA  
S. Bell, DOE-RFFO  
J. Berardini, K-H  
B. Birk, DOE-RFFO  
L. Brooks, K-H ESS  
L. Butler, K-H RISS  
G. Carnival, K-H RISS  
N. Castaneda, DOE-RFFO  
C. Deck, K-H Legal  
S. Garcia, EPA  
S. Gunderson, CDPHE  
M. Keating, K-H RISS  
L. Kimmel, USEPA  
D. Kruchek, CDPHE  
D. Mayo, K-H RISS

R. McCallister, DOE-RFFO  
J. Mead, K-H ESS  
S. Nesta, K-H RISS  
L. Norland, K-H RISS  
K. North, K-H ESS  
E. Pottorff, CDPHE  
A. Primrose, K-H RISS  
R. Schassburger, DOE-RFFO  
S. Serreze, K-H RISS  
D. Shelton, K-H ESS  
C. Spreng, CDPHE  
S. Surovchak, DOE-RFFO  
K. Wiemelt, K-H RISS  
C. Zahm, K-H Legal

### Additional Distribution:



## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE ER REGULATORY CONTACT RECORD

<b>Date/Time:</b>	11/10/04 1:00 (corrected)	
<b>Site Contact(s,):</b>	Norma Castaneda	Annette Primrose
<b>Phone:</b>	303 966-4226	303 966-4385
<b>Regulatory Contact:</b>	Sam Garcia	Harlen Ainscough
<b>Phone:</b>	303 312-6659	303 692-3337
<b>Agency:</b>	EPA	CDPHE

**Purpose of Contact:** Agreement to remediate the fill material overlying Trench 7

### Discussion

As agreed to in the meeting on November 10, 2004, the fill material that covers Trench 7 is contaminated with very low levels of radionuclides that are above action levels at two locations. Therefore, the fill material at each hotspot will be remediated as required to meet the action levels.

Confirmation samples will be collected in accordance with the IABZSAP. One sample will be collected from each of the four excavation walls and one from the bottom of the trench. Side wall samples will be representative of the entire interval where contamination was detected.

The contents of Trench 7 will not be disturbed. The remedial action is only for the material that was used to cover the contents of the trench.

**Contact Record Prepared by:** Annette Primrose

### Required Distribution:

M. Aguilar, USEPA  
H. Ainscough, CDPHE  
S. Bell, DOE-RFPO  
J. Berardini, K-H  
B. Birk, DOE-RFPO  
L. Brooks, K-H ESS  
L. Butler, K-H RISS  
G. Carnival, K-H RISS  
N. Castaneda, DOE-RFPO  
C. Deck, K-H Legal  
N. Demos, SSOC  
S. Gunderson, CDPHE  
M. Keating, K-H RISS  
L. Kimmel, USEPA  
D. Kruchek, CDPHE  
J. Legare, DOE-RFPO

D. Mayo, K-H RISS  
J. Mead, K-H ESS  
S. Nesta, K-H RISS  
L. Norland, K-H RISS  
K. North, K-H ESS  
E. Pottorff, CDPHE  
A. Primrose, K-H RISS  
R. Schassburger, DOE-RFPO  
S. Serreze, K-H RISS  
D. Shelton, K-H ESS  
C. Spreng, CDPHE  
S. Surovchak, DOE-RFPO  
J. Walstrom, K-H RISS  
K. Wiemelt, K-H RISS  
C. Zahm, K-H Legal

### Additional Distribution:

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## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE ER REGULATORY CONTACT RECORD

**Date/Time:** November 24, 2004/3:00

**Site Contact(s):** Annette Primrose      Norma Castaneda  
**Phone:** 303 966-4385      303 966-4226

**Regulatory Contact:** Sam Garcia      Harlen Ainscough  
**Phone:** 303 312-6247      303 692-3337  
**Agency:** EPA      CDPHE

**Purpose of Contact:** Backfill of Trench 7 hotspot at IHSS Group 900-12

### Discussion

Field screen samples from all four sides of the excavation boundary for both the CZ41-010 and CZ41-011 hotspots were below action levels and samples have been submitted for offsite analyses. The western, deeper excavation associated with CZ41-010 was immediately backfilled. The more shallow excavation of the eastern hotspot (CZ41-011) will be backfilled within the next few working days. Backfill was performed at risk pending the results of the offsite analyses. Additional excavation may be required based on the final results.

**Contact Record Prepared By:** Annette Primrose

### Required Distribution:

#### Required Distribution:

M. Aguilar, USEPA  
H. Ainscough, CDPHE  
S. Bell, DOE-RFPO  
J. Berardini, K-H  
B. Birk, DOE-RFPO  
L. Brooks, K-H ESS  
L. Butler, K-H RISS  
G. Carnival, K-H RISS  
N. Castaneda, DOE-RFPO  
C. Deck, K-H Legal  
N. Demos, SSOC  
S. Gunderson, CDPHE  
M. Keating, K-H RISS  
L. Kimmel, USEPA  
D. Kruchek, CDPHE  
J. Legare, DOE-RFPO

D. Mayo, K-H RISS  
J. Mead, K-H ESS  
S. Nesta, K-H RISS  
L. Norland, K-H RISS  
K. North, K-H ESS  
E. Pottorff, CDPHE  
A. Primrose, K-H RISS  
R. Schassburger, DOE-RFPO  
S. Serreze, K-H RISS  
D. Shelton, K-H ESS  
C. Spreng, CDPHE  
S. Surovchak, DOE-RFPO  
J. Walstrom, K-H RISS  
K. Wiemelt, K-H RISS  
C. Zahm, K-H Legal

### Additional Distribution:

Additional Distribution:  
S. Garcia, USEPA  
G. Kelly, K-H RISS  
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## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE ER REGULATORY CONTACT RECORD

**Date/Time:** January 12, 2005 / 0900

**Site Contact(s):** Annette Primrose  
**Phone:** 303 966-4385

**Regulatory Contact:** Sam Garcia                      Harlen Ainscough  
**Phone:** 303 312-6247                      303 692-3337  
**Agency:** EPA                                      CDPHE

**Purpose of Contact:** Backfill of Trench 7 hotspot at IHSS Group 900-12

### **Discussion**

The northern and southern confirmation samples collected at the excavation boundaries for the eastern hotspot at Trench 7 (original sample location CZ41-011) came back above action levels. Additional soils were removed to the north and south of the original excavation on January 6<sup>th</sup> and 10<sup>th</sup>. Field screen samples came back at very low levels. The excavation was immediately backfilled because of the approaching weather. Backfill was performed at risk pending the results of the offsite analyses. Additional excavation may be required based on the final results.

**Contact Record Prepared By:** Annette Primrose

### Required Distribution:

M. Aguilar, USEPA  
H. Ainscough, CDPHE  
S. Bell, DOE-RFPO  
J. Berardini, K-H  
B. Birk, DOE-RFPO  
L. Brooks, K-H ESS  
L. Butler, K-H RISS  
G. Carnival, K-H RISS  
N. Castaneda, DOE-RFPO  
C. Deck, K-H Legal  
N. Demos, SSOC  
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M. Keating, K-H RISS  
L. Kimmel, USEPA  
D. Kruchek, CDPHE  
J. Legare, DOE-RFPO

D. Mayo, K-H RISS  
J. Mead, K-H ESS  
S. Nesta, K-H RISS  
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C. Spreng, CDPHE  
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J. Walstrom, K-H RISS  
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C. Zahm, K-H Legal

### Additional Distribution:

S. Garcia, USEPA  
G. Kelly, K-H RISS

## **APPENDIX B**

### **PHOTOGRAPHS**

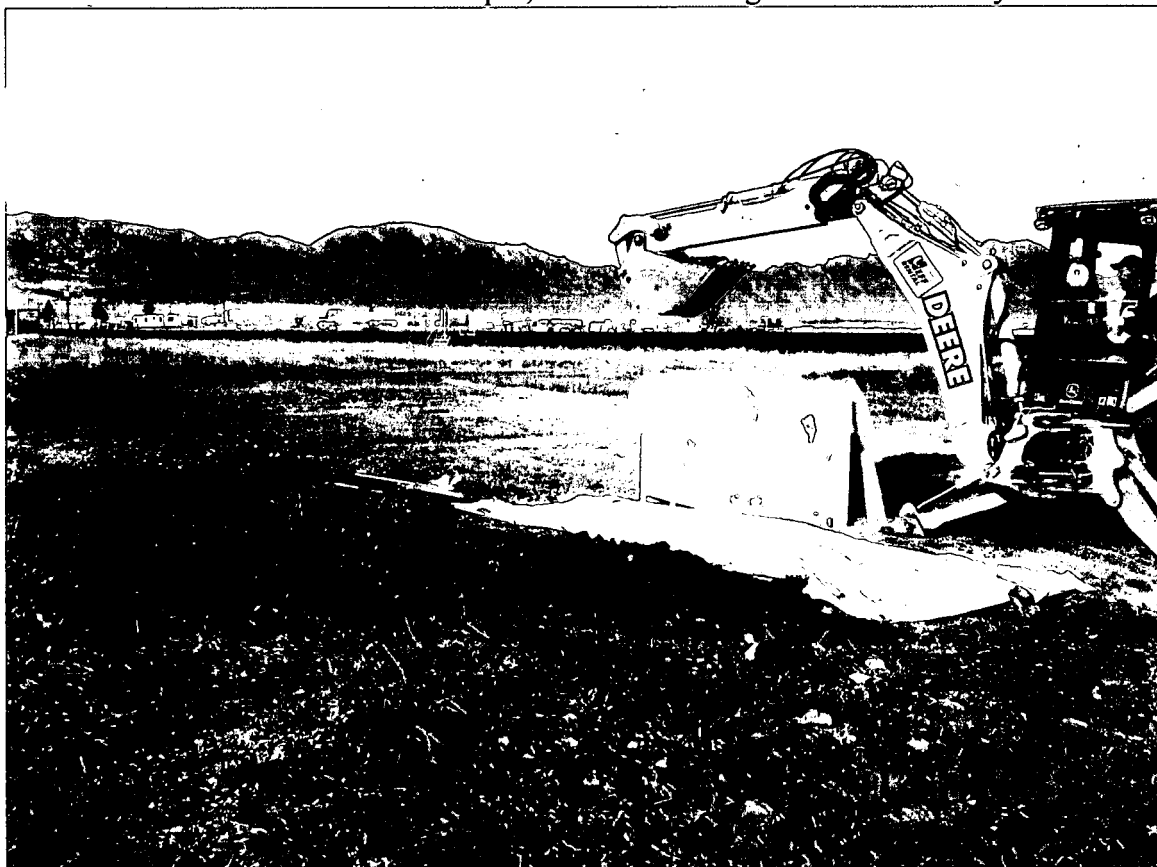
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Trench T-7 Eastern Hot Spot, showing locations at the northern and southern boundaries that required additional removal.



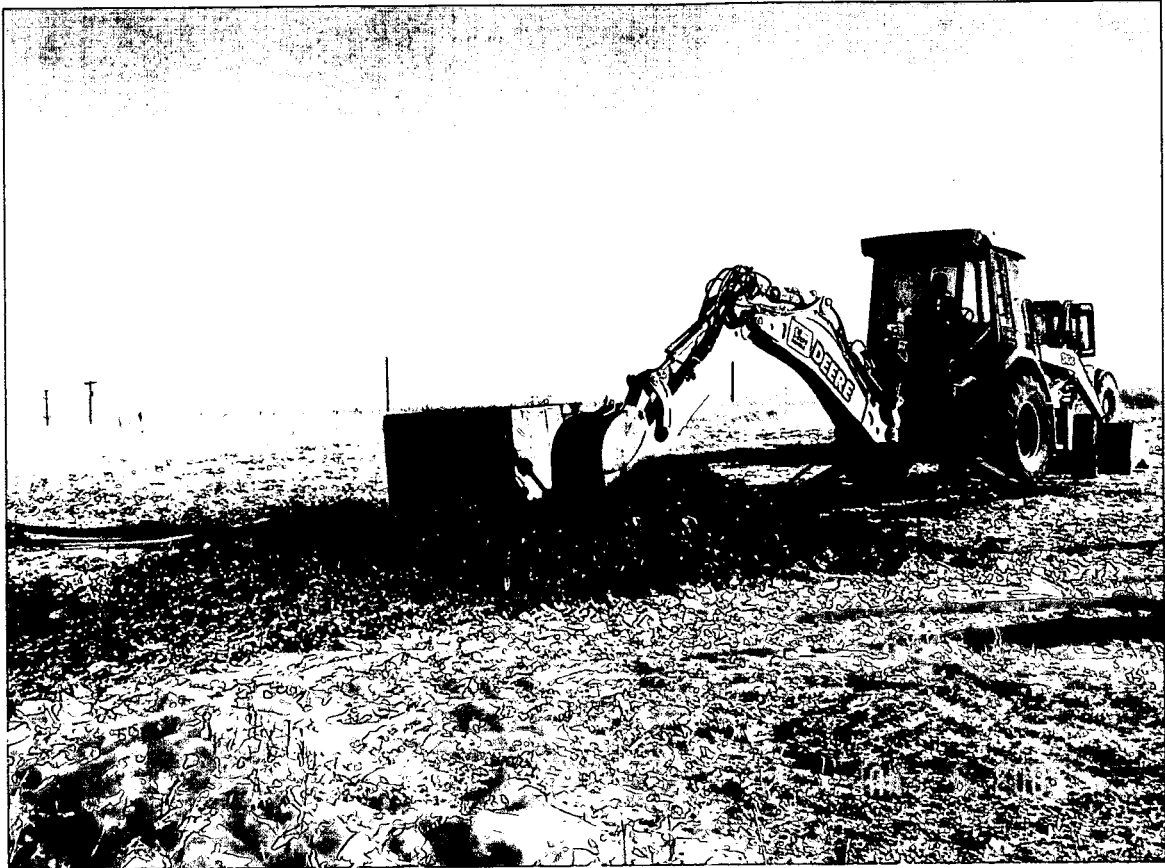
Trench T-7 Eastern Hot Spot, excavation along northern boundary.



Trench T-7 Eastern Hot Spot, loading of fill material along northern boundary.



Trench T-7 Eastern Hot Spot, nearing completion of excavation along northern boundary.



Trench T-7 Eastern Hot Spot, excavation along southern boundary.

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16